



2012 "VOLUNTEERS WORKING WITH INVASIVES" GRANTS REPORT FORM

Display Report

PROJECT BACKGROUND INFORMATION

Project Title:	Laysan Island Invasive Plant Monitoring and Control with Volunteers	
Region: Use region number ONLY	1	
Station:	Hawaiian Islands National Wildlife Refuge within the Papahānaumokuākea Marine National Monument	
Contact Person: Name and Phone Number	Cindy_Rehkemper@fws.gov; 808-927-5035	
Project Description: (Up to 250 words)	This project supports restoration activities at Laysan Island. Staff and volunteers continue efforts to eradicate alien invasive species Indian dropseed (<i>Sporobolus pyramidatus</i>), Bermuda grass (<i>Cynodon dactylon</i>), and Indian fleabane (<i>Pluchea indica</i>) by physical removal, chemical treatment and conduct post monitoring to prevent reestablishment. Volunteers continue long-term monitoring, mapping, and control of the Common Sandbur and Swinecress (<i>Coronopus didymus</i>). Tobacco (<i>Nicotannia tobaccum</i>) and Hairy Horsetweed (<i>Conyza bonariensis</i>) are removed opportunistically and are considered low priority at this time. Native plant propagation and out-planting is conducted in areas free of alien invasive species. Crew members conduct regular monitoring of vertebrate species for population health and ants are monitored for early detection of any new specie arrivals.	
List of Invasives Species Targeted:	Common Name	Scientific Name
	Indian Drop seed	<i>Sporobolus pyramidatus</i>
	Bermuda Grass	<i>Cynodon dactylon</i>
	Indian Fleabane	<i>Pluchea indica</i>
	Swinecress	<i>Coronopus didymus</i>
	Tobacco	<i>Nicotannia tobaccum</i>
	Hairy Horse weed	<i>Conyza bonariensis</i>
	Common Sandbur	<i>Cenchrus echinatus</i>
Project Status:	InProgress	
Project Completion Date or Estimated Completion Date: (mm/dd/yyyy)	12/31/2013	

VOLUNTEER INFORMATION

Volunteer Affiliation: (Check all that apply)	VA_Other
Volunteer Involvement: Describe the type of work the volunteers performed. (Up to 150 words)	This year we treated approximately 415.72 combined acres of Indian dropseed and Bermuda grass. We increased the number of Indian Fleabane targeted from 9.35 acres in 2010 to 1057.71 acres in 2012. Nature helped our efforts of Indian Fleabane control in 2011. In Feb 2011 an unusually strong storm dumped 10 inches of rain on Laysan Island in 8 hours. This rainfall event emptied into the hypersaline lake at Laysan creating flooding beyond the normal boundaries of the lake with hypersaline water. The subsidence of water took over 2 months to regain normal lake boundaries. During that inundation older stands of Indian Fleabane bushes (height > 5' high) were killed in place. During this inundation period all vegetative plants ie every species were killed in place, invasive species as well as endemics including out-plants from plant propagation efforts. The seed bank however was not damaged. Invasive species and endemics have reemerged in these locations. Long term monitoring and control of the Common Sandbur (Cenchrus echinatus) diameters continues and diameters are repetitively surveyed every 45 days for a total of 1.4 acres in 2012. Annually Sandbur surveillance is conducted as an island wide survey for a total of 504.1 acres surveyed and no new plants found. Swinecress is an ongoing early detection rapid/response methodology that has remained minimal effort of 12.64 acres for 2012. We conducted 2 Ant surveys to assess current species on the island and monitor for new introductions. Lastly, we opportunistically monitored and removed Tobacco (Nicotannia tobaccum) and Hairy horseweed (Conyza bonariensis) as low priority invasive species that will be targeted once other species are controlled.
Total Number of Volunteers:	6
Total Number of Volunteer Hours:	6864
Partnerships: List both new and existing partnerships utilized in this project. (Up to 150 words).	It cannot be overstated that our work would not be possible without the efforts of dedicated volunteers and the assistance of partner conservation organizations. In 2009 the number of full time volunteers utilized by FWS in Papahanaumokuakea for conservation exceeded the number of paid personnel on staff. The FWS Ecological Services continues to provide assistance with threatened and endangered species. The Hawaii State Department of Land and Natural Resources assists by consultation in invasive species removal and native plant propagation efforts as well as providing access to state properties for seed collection of species propagated at Laysan. The USDA is involved in consulting on invasive species management, identification and native plant propagation. The University of Hawaii, Lyon Arboretum contributes to education and maintenance of ex-situ seed storage facilities. National Marine Fisheries aids Laysan in monitoring the endangered Hawaiian Monk Seal population. The NOAA vessel Sette assists with transportation of cargo to Laysan and personnel on occasion. The National Center for Genetic Resource Preservation is providing long term seed storage for the endangered plants found in Papahanaumokuakea. Ecological Services, Hawaiian and Pacific Islands NWR, Pacific Reefs NWR have all contributed funds to support invasive species work.

PROJECT RESULTS

Project Results: Give an overview of the results of the project. Include quantifiable measure of success, such as maps produced, efficacy of control measures, number of sites where invasions were detected early and responded to, number of community contacts, etc. (Up to 250 words).	There are 2 active diameters of Common Sandbur. In 6 April 2010 1 seeded plant was found in diameter D115. In 16 Nov 2009 1 seeded plant was found in diameter D116. No new plants of Common Sandbur were seen in 2012 with 1.75 man hours spent checking the 1.4 acre area. Swinecress has not been found at Laysan since 12 April 2011 when 2 vegetative plants were found and removed. No new swinecress plants were seen in 2012 with 12.64 man hours invested for 15.82 acres. A total of 807 person hours were spent in removal of Sporobolus pyramidatus and Cynadon dactylon controlling a total of 228 acres of treated area. All known Cynadon areas are in an active control regime on Laysan now. There is an estimated 10 acres of uncontrolled Sporobolus. Six acres of previously treated Sporobolus was
--	---

	suspended and an additional 3 acres was not started in 2011 or 2012. This adaptive management provided time and manpower to take advantage of the storm in Feb 2011 and propelled efforts of Pluchea indica control from 6861 acres in 86 person hours in 2010 to 1057.71 acres in 1060.21 person hours in 2012. Pluchea can be controlled with the same method and chemical (Aquamaster/Glyphosate) as is used for Cynadon and Sporobolus there by coupling 3 species into 1 application per unit area.
Number of Acres Treated:	1487.47
Number of Acres Inventoried and/or Mapped:	
Number of Acres Restored:	0

BUDGET INFORMATION

Budget: Account for funds in broad categories such as equipment, volunteer stipends, travel, coordinator salary/contract, etc.

Total Grant Amount:	\$ 20000
----------------------------	----------

Breakdown of Expenditures:

Category	Total \$ Spent	% of Total Grant
Equipment / Supplies	14182	71
Chemical		
Biocontrol Agents		
Travel	4127	21
Volunteer Stipends		
Volunteer Coordinator Salary/Contract		
Restoration Materials	654	3
Other	1037	5
TOTAL	2000	100

Recommendations: (OPTIONAL) How useful was this program for meeting refuge invasive species objectives and how can it be improved?	We have been fortunate to compete successfully for this grant for 3 years now. Honestly we really need this to survive. In 2011 we were hit with a large storm and a tsunami. These two events set us back financially destroying structures, equipment and supplies. Now in Nov of 2012 we have had another large setback. With the budget reductions over the past few years we lost our mechanism for keeping our chain of command intact at Laysan in the event of an injury, illness etc. In Nov our lead biotechnician at Laysan had to be evacuated from the island for medical reasons. With no USFW chain of command on island to manage volunteers the decision was made to close the camp until Mar 3013. It is our intent to re-open in Mar 3013. Bridget Flanders has been extremely helpful and responsive to questions. Additionally she has also kept me in the loop for additional funding opportunities. These qualities and activities have been greatly appreciated.
--	--